



SIERRA GREEN ENERGY, LLC (SGE)

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Ron Bingaman, Managing Member

Gravitational Vortex Variable Flow Energy System (GVvFES)

Summary:

Currently, several major categories are responsible for fish entrainment, injury and death. One such area is water diverted for hydroelectric production. A viable solution to resolve this critical area would make a significant contribution to lower overall fish injuries and mortality.

Description:

The GVvFES electrical production unit is a new and unique approach to renewable hydroelectric energy as the GVvFES unit is both environmentally and fish friendly. Historically, in many cases, hydro power production has been at odds with the natural environment and aquatic species given the operating hydro designs being used. The GVvFES unit's novel design offers a totally different approach to power production in that it blends renewable energy, fish safety and environmentally friendly features into a single operational design. The GVvFES design allows fish to safely pass through the hydro plant (upstream and downstream) while in full operational output.

Keys features include:

- Fish friendly
- Small environmental footprint
- Naturally oxygenates the water
- Adaptable to varying water flows
- High efficiencies at all flow rates
- Low capital costs
- Scalable
- Adaptable to varying heads

Project Leader:

Ron Bingaman's professional career was in the corporate environment. A strategic business executive with over 20 years of experience including key areas in business, design, systems, negotiating/contracting, finance, regulatory compliance, and marketing. Known as an original thinker for innovation and efficiency; an advanced self starter who thrives in complex business environments with a consistent eye to the bottom line. After retiring from his profession career, Mr. Bingaman pursued his passion in renewable hydroelectric energy founding his Nevada based company, Sierra Green Energy, LLC.

Company Information:

Ron Bingaman is the owner and the Managing Member of Sierra Green Energy, LLC (SGE). SGE has operated a small hydroelectric site for about 11 years. The site consists of two Pelton wheel turbine/generator units that are fully grid-interconnected producing about 28 Kw. This facility is fully licensed and permitted by all local, State and Federal regulatory agencies and is a qualifying PUC renewable energy facility. Green credits (REC's) are managed via the Western Renewable Energy Generation Information System based in Utah.